UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,918	12/12/2001	Louis Guillou	9320.134USWO	3008

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EXAMINER
HENNING, MATTHEW T

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/889,918	GUILLOU ET AL.
	Examiner	Art Unit	
	Matthew T. Henning	2131	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 March 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*19-26 and 28*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*19-26 and 28*</u> is/are rejected.

7)☒ Claim(s) <u>*19-26 and 28*</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>*19 December 2005*</u> is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1   This action is in response to the communication filed on 3/3/2006.

2   **DETAILED ACTION**

3   Claims 19-26 and 28 have been examined. Claims 1-18 and 27 have been cancelled.

4   All objections and rejections not set forth below have been withdrawn.

5   *Specification*

6   The specification is objected to as failing to provide proper antecedent basis for the

7   claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the

8   following is required: In this case, the specification lacks any mention of "the body of integers

9   modulo n". See the rejection of claims 19-26 and 28 under 35 USC 112 1st Paragraph below.

10   *Claim Objections*

11

12   Claims 20-26 and 28 are objected to because of the following informalities:

13   Claims 20-23 and 25-26 use 'x' to represent multiplication. This is inconsistent with the

14   independent claims as well as the specification which use '·' instead.

15   Claim 24 recites "The process according to claim 20" which is inconsistent with its

16   parent claim. Claim 24 should read "The computer implemented process".

17   Claim 25 recites "A process according to claim 19 for" which is inconsistent with its

18   parent claim. Claim 25 should read "The computer implemented process according to claim 19".

19   Claim 26 recites "The process of claim 25" which is inconsistent with its parent claims.

20   Claim 26 should read "The computer implemented process according to claim 25".

21   Claim 28 recites "the computer code comprising: obtaining...using". This incorrectly

22   implies that the computer code performs the claimed method steps. However, in reality this is

1   not the case, but instead computer code causes a computer processor to perform method steps.

2   Therefore, the claim should be amended to indicate that a processor performs the method steps as

3   a result of the computer code.

4   Appropriate correction is required.

5   *Claim Rejections - 35 USC § 112*

6   The following is a quotation of the first paragraph of 35 U.S.C. 112:

7   The specification shall contain a written description of the invention, and of the manner and process of making
8   and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
9   pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
10   contemplated by the inventor of carrying out his invention.
11
12   Claims 19-26 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to

13   comply with the written description requirement. The claim(s) contains subject matter which

14   was not described in the specification in such a way as to reasonably convey to one skilled in the

15   relevant art that the inventor(s), at the time the application was filed, had possession of the

16   claimed invention. In the instant application, claims 19 and 28 recite the limitation "the body of

17   integers modulo n". Although there is support for the "the ring of integers modulo n" there is no

18   support for "the body of integers modulo n". As such, the ordinary person skilled in the art

19   would be able to determine that the applicants possessed the claimed invention at the time of

20   filing. Therefore, claims 19-26 and 28 are rejected for failing to comply with the written

21   description requirement of 35 USC 112 1st Paragraph.

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1   The following is a quotation of the second paragraph of 35 U.S.C. 112:

2   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
3   subject matter which the applicant regards as his invention.
4
5   Claims 19-26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being

6   indefinite for failing to particularly point out and distinctly claim the subject matter which

7   applicant regards as the invention.

8   Regarding claims 19 and 28, the use of parenthesis around "Q_i,G_i" and "for $i = 1,...,m$"

9   renders the claims unclear. This is due to the fact that the ordinary person skilled in the art

10 would not be able to determine whether contents of the parenthesis was meant to be contained in

11 the claim language or not. As a result the ordinary person skilled in the art would be unable to

12 determine the scope of the claims.

13   *Claim Rejections - 35 USC § 101*

14   35 U.S.C. 101 reads as follows:

15   Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
16   any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
17   requirements of this title.
18
19   Claims 19, 25, and 28 rejected under 35 U.S.C. 101 because the claimed invention is

20 directed to non-statutory subject matter.

21   Regarding claims 19, 25, and 28, a method which merely manipulates data is
22 claimed.

23   *A claim that requires one or more acts to be performed defines a process.*
24   *However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d*
25   *at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process*
26   *must either: (A) result in a physical transformation outside the computer for which*
27   *a practical application in the technological arts is either disclosed in the*
28   *specification or would have been known to a skilled artisan (discussed in i)*
29   *below), or (B) be limited to a practical application within the technological arts*
30   *(discussed in ii) below). See Diamond v. Diehr, 450 U.S. at 183-84, 209 USPQ at*
31   *6 (quoting Cochrane v. Deener, 94 U.S. 780, 787-88 (1877)) ("A [statutory]*
32   *process is a mode of treatment of certain materials to produce a given result. It is*
33   *an act, or a series of acts, performed upon the subject-matter to be transformed*

1 *and reduced to a different state or thing.... The process requires that certain*
2 *things should be done with certain substances, and in a certain order; but the*
3 *tools to be used in doing this may be of secondary consequence."). See also*
4 *Alappat, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting Diamond v. Diehr,*
5 *450 U.S. at 192, 209 USPQ at 10). See also id. at 1569, 31 USPQ2d at 1578-79*
6 *(Newman, J., concurring) ("unpatentability of the principle does not defeat*
7 *patentability of its practical applications") (citing O'Reilly v. Morse, 56 U.S.*
8 *(15 How.) at 114-19). If a physical transformation occurs outside the computer, a*
9 *disclosure that permits a skilled artisan to practice the claimed invention, i.e., to*
10 *put it to a practical use, is sufficient. On the other hand, it is necessary for the*
11 *claimed invention taken as a whole to produce a practical application if there is*
12 *only a transformation of signals or data inside a computer or if a process merely*
13 *manipulates concepts or converts one set of numbers into another.*

14   *See MPEP § 2106.2(b)*

15   Although the claim does recite using the private values in an authentication or signature

16 method, the claim provides no details as to how the private values are used. Therefore, the

17 claims recite only data transformation inside a computer. As such, claim 19 fails to meet the

18 statutory requirements of 35 USC 101.

19   ***Double Patenting***

20   The nonstatutory double patenting rejection is based on a judicially created doctrine
21 grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
22 improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
23 harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection
24 is appropriate where the conflicting claims are not identical, but at least one examined
25 application claim is not patentably distinct from the reference claim(s) because the examined
26 application claim is either anticipated by, or would have been obvious over, the reference
27 claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*
28 *Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225
29 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*
30 *Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
31 USPQ 644 (CCPA 1969).
32   A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may
33 be used to overcome an actual or provisional rejection based on a nonstatutory double patenting
34 ground provided the conflicting application or patent either is shown to be commonly owned
35 with this application, or claims an invention made as a result of activities undertaken within the
36 scope of a joint research agreement.
37   Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
38 disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
39 3.73(b).

1   Claims 19-26 and 28 are provisionally rejected on the ground of nonstatutory

2   obviousness-type double patenting as being unpatentable over claims 19-28 and of copending

3   Application No. 10/089,626. Although the conflicting claims are not identical, they are not

4   patentably distinct from each other because it would have been obvious to the ordinary person

5   skilled in the art that quadratic residues could have been used in the place of the non-quadratic

6   residues.

7   This is a provisional obviousness-type double patenting rejection because the conflicting

8   claims have not in fact been patented.

9   Claims 19-26 and 28 are provisionally rejected on the ground of nonstatutory

10   obviousness-type double patenting as being unpatentable over claims 1-20 of copending

11   Application No. 09/889,958. Although the conflicting claims are not identical, they are not

12   patentably distinct from each other because claims 1-20 of Application number 09/889,958

13   contain every element of claims 19-26 and 28 of the instant application and as such are not

14   patentably distinct from the copending applications claims.

15   This is a provisional obviousness-type double patenting rejection because the conflicting

16   claims have not in fact been patented.

17   Claims 19-26 and 28 are provisionally rejected on the ground of nonstatutory

18   obviousness-type double patenting as being unpatentable over claims 1-20 of copending

19   Application No. 09/889,958. Although the conflicting claims are not identical, they are not

20   patentably distinct from each other because claims 1-20 of Application number 09/889,958

21   contain every element of claims 19-26 and 28 of the instant application and as such are not

22   patentably distinct from the copending application's claims.

1   This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims

2   have not in fact been patented.

3   Claims 19-26 and 28 are provisionally rejected on the ground of nonstatutory

4   obviousness-type double patenting as being unpatentable over claims 13-24 of copending

5   Application No. 09/869,966. Although the conflicting claims are not identical, they are not

6   patentably distinct from each other because claims 13-24 of Application number 09/869,966

7   contain every element of claims 19-26 and 28 of the instant application except that the variable

8   'k' is greater than 1. However, it is obvious that the variable 'k' could be an integer greater than

9   1 and as such are not patentably distinct from the copending application's claims.

10   This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting

11   claims have not in fact been patented.

12   *Conclusion*

13   Claims 19-26 and 28 have been rejected.

14   Applicant's amendment necessitated the new ground(s) of rejection presented in this

15   Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

16   Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17   A shortened statutory period for reply to this final action is set to expire THREE

18   MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

19   MONTHS of the mailing date of this final action and the advisory action is not mailed until after

20   the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

21   will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

22   CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

1   however, will the statutory period for reply expire later than SIX MONTHS from the date of this

2   final action.

3   Any inquiry concerning this communication or earlier communications from the

4   examiner should be directed to Matthew T. Henning whose telephone number is (571) 272-3790.

5   The examiner can normally be reached on M-F 8-4.

6   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

7   supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the

8   organization where this application or proceeding is assigned is 571-273-8300.

9   Information regarding the status of an application may be obtained from the Patent

10   Application Information Retrieval (PAIR) system. Status information for published applications

11   may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

12   applications is available through Private PAIR only. For more information about the PAIR

13   system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

14   system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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21   Matthew Henning
22   Assistant Examiner
23   Art Unit 2131
24   3/12/2006
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